

CLAIMS:

1. A cultured, immortalized, non-transformed mammalian hepatic cell line obtained by culturing cells obtained from a mammalian liver for at least one month under conditions suitable to obtain said cultured, immortalized, non-transformed mammalian hepatic cell.

5 2. The cultured cell line of Claim 1, which is a stem cell.

3. The cultured cell line of Claim 2, wherein the stem cell is bipotential.

4. The cultured cell line of Claim 1, which is non-differentiated.

5. The cultured cell line of Claim 1, which is differentiated.

10 6. The cultured cell line of Claim 5, wherein the cells are differentiated into hepatocytes.

7. The cultured cell line of Claim 5, wherein the cells are differentiated into bile ducts.

8. The cultured cell line of Claim 1, wherein the mammal is a mouse.

9. The cultured cell line of Claim 1, wherein the culturing time is at least 2 months.

10. The cultured cell of Claim 1, wherein the culturing time is at least 3 months.

15 11. The cultured cell of Claim 1, which is obtained from a mammalian embryonic liver.

12. A method of producing an immortalized, non-transformed mammalian hepatic cell line, comprising

obtaining a sample of liver tissue from a mammal, and

culturing the sample for at least one month under conditions suitable for the production of cultured, immortalized, non-transformed mammalian hepatic cell line.

13. The method of Claim 12, wherein the immortalized, non-transformed mammalian hepatic cell line are stem cells.

5 14. The method of Claim 13, wherein the stem cell is bipotential.

15. The method of Claim 12, wherein the cells of the immortalized, non-transformed mammalian hepatic cell line are non-differentiated.

16. The method of Claim 12, wherein the cells of the immortalized, non-transformed mammalian hepatic cell is differentiated.

10 17. The method of Claim 12, wherein the mammal is a mouse.

18. The method of Claim 12, wherein the culturing time is at least 2 months.

19. The method of Claim 12, wherein the culturing time is at least 3 months.

20. The method of Claim 12, wherein the liver tissue is embryonic liver tissue.

15 21. A method of generating liver tissue in a mammal, comprising producing the immortalized, non-transformed mammalian hepatic cell line of Claim 1 and stimulating the hepatic cells of the cell line for a time and under conditions suitable to induce the hepatic cell to differentiate into liver tissue.

22. The cultured cell of Claim 1, which is BMEL-14B3 deposited at the C.N.C.M on October 3, 2003 under the accession number I-3100.

23. The cultured cell of Claim 1, which is BMEL-9A1 deposited at the C.N.C.M on October 3, 2003 under the accession number I-3099.

24. A method of generating liver tissue in a mammal, comprising injecting a composition comprising immortalized, non-transformed mammalian hepatic cells of the cell
5 line according to Claim 1 to generate liver tissue in said mammal.

25. A method of generating liver tissue in a mammal, comprising injecting a composition comprising immortalized, non-transformed mammalian hepatic cells of the cell line according to Claim 2 to generate liver tissue in said mammal.

26. A method of generating liver tissue in a mammal, comprising injecting a
10 composition comprising immortalized, non-transformed mammalian hepatic cells of the cell line according to Claim 3 to generate liver tissue in said mammal.

27. A method of generating liver tissue in a mammal, comprising injecting a composition comprising immortalized, non-transformed mammalian hepatic cells of the cell line according to Claim 4 to generate liver tissue in said mammal.

15 28. A method of generating liver tissue in a mammal, comprising injecting a composition comprising immortalized, non-transformed mammalian hepatic cells of the cell line according to Claim 5 to generate liver tissue in said mammal.

29. A method of generating liver tissue in a mammal, comprising injecting a composition comprising immortalized, non-transformed mammalian hepatic cells of the cell
20 line according to Claim 6 to generate liver tissue in said mammal.

30. A method of generating liver tissue in a mammal, comprising injecting a composition comprising immortalized, non-transformed mammalian hepatic cells of the cell line according to Claim 7 to generate liver tissue in said mammal.

31. A method of generating liver tissue in a mammal, comprising injecting a composition comprising immortalized, non-transformed mammalian hepatic cells of the cell line according to Claim 8 to generate liver tissue in said mammal.

32. A method of generating liver tissue in a mammal, comprising injecting a composition comprising immortalized, non-transformed mammalian hepatic cells of the cell line according to Claim 22 to generate liver tissue in said mammal.

33. A method of generating liver tissue in a mammal, comprising injecting a composition comprising immortalized, non-transformed mammalian hepatic cells of the cell line according to Claim 23 to generate liver tissue in said mammal.

34. A method of identifying a compound which alters the development of the cultured cells of the cell line of Claim 1, comprising

contacting the cultured cells with the compound; and

detecting at least one of an altered differentiation or development of the cultured cells into hepatocytes, bile duct, or both compared to the cultured cells not contacted with the compound.

35. A non-human mammal comprising the hepatic cells of the cell line according to Claim 1.

36. A cultured, immortalized, non-transformed hepatic cell obtained from the cell line of Claim 1.

37. A cultured, immortalized non-transformed mammalian hepatic cell obtained from the cell line produced by the method of Claim 12.

38. A method of generating differentiated hepatocytes, bile ducts, or both, comprising producing the immortalized, non-transformed mammalian hepatic cell of Claim 1 and
5 stimulating the hepatic cell for a time and under conditions suitable to induce the hepatic cell to differentiate into hepatocytes, bile ducts or both.

39. The cultured cell line of Claim 1, wherein the hepatic cells are transduced.

40. The method of Claim 12, wherein the hepatic cells of the cell line are transduced.

41. The method of Claim 21, wherein the hepatic cells of the cell line are transduced.

10 42. The method of Claim 24, wherein the hepatic cells of the cell line are transduced.

43. The method of Claim 34, wherein the hepatic cells of the cell line are transduced.

44. The non-human mammal of Claim 34, wherein the hepatic cells of the cell line are transduced.

45. The hepatic cell of Claim 36, which is transduced.

15 46. The method of Claim 38, wherein the hepatic cells of the cell line are transduced.